Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (Currently amended): A method for processing motion frames, comprising:

(1) generating a first image pyramid associated with a first image, and a second image pyramid associated with a second image, wherein the first and the second image pyramids respectively comprise a plurality of corresponding image levels of gradual resolutions;

~~(1)~~ (2) warping a first ~~level~~ image level of the first image pyramid with a motion field;

~~(2)~~ (3) determining a first residual motion field from the warped first ~~level~~ image level of the first image pyramid and a corresponding first ~~level~~ image level of the second image pyramid;

~~(3) if~~ (4) when the first residual motion field is not less than a threshold, adding the first residual motion field to the motion field and repeating steps ~~(1)~~ (2) and (3) ~~(2)~~; and

~~(4) if~~ (5) when the first residual motion field is less than the threshold:

(a) warping a second ~~level~~ image level of the first image pyramid with the motion field;

(b) determining a second residual motion field from the warped second ~~level~~ image level of the first image pyramid and a corresponding second ~~level~~ image level of the second image pyramid; and

(c) [[if]] when the second residual motion field is not less than a threshold, adding the second residual motion to the motion field and repeating steps ~~(1)~~ (5)(a) and ~~(1)~~ (5)(b); [[.]]

(6) when the second residual motion field is less than the threshold and the second image level corresponds to a highest resolution of the first image pyramid, generating an intermediate image between the first and the second images on a pixel-by-pixel basis derived from the motion field.

Claim 2 (Canceled)

Claim 3 (Canceled)

Claim 4 (Currently amended): The method of claim 1, wherein said generating a first image pyramid and ~~said generating~~ a second image pyramid comprises generating a first Laplacian pyramid of the first image and ~~generating~~ a second Laplacian pyramid of the second image.

Claim 5 (Currently amended): The method of claim 1 ~~2~~, wherein ~~said determining a motion field and~~ said determining [[a]] first and second residual motion fields comprises applying a Horn and Schunck motion estimation algorithm.

Claim 6 (Canceled)

Claim 7 (Currently amended): The method of claim 1 ~~6~~, wherein said generating an intermediate image comprises:

~~determining a pair of corresponding points in the first and the second image from~~ selecting a first pixel in the first image and a second pixel in the second image paired by a motion vector in the motion field;

determining a value of a corresponding pixel ~~point~~ in the intermediate image from the values of the ~~pair~~ first and second pixels ~~of corresponding points~~;

determining a position of the corresponding pixel ~~point~~ in the intermediate image from the motion vector; and

repeating said ~~determining~~ selecting a first pixel in the first image and a second pixel in the second image ~~pair of corresponding points~~, said determining a value of a corresponding pixel in the intermediate image ~~point~~, and said determining a position of the corresponding pixel in the intermediate image ~~point~~ for remainder of motion vectors in the motion field.

Claim 8 (Canceled)

Claim 9 (New): A method for processing motion frames, comprising:

providing a first image pyramid associated with a first image, and a second image pyramid associated with a second image, wherein the first and the second image pyramids respectively comprise a plurality of corresponding image levels of gradual resolutions;

computing a motion field comprising a plurality of motion vectors that respectively associate each pixel in the first image with a corresponding pixel in the second image, wherein the motion field is computed recursively through the image levels from a coarsest resolution to a finest resolution; and

generating an intermediate image between the first image and the second image on a pixel-by-pixel basis using the motion field.

Claim 10 (New): The method of claim 9, wherein said computing a motion field comprises:

for each image level, performing a computation loop to derive an intermediate motion field based on an previous motion field obtained for a previous image level of coarser resolution, wherein the previous motion field is initially assigned to the intermediate motion, and the computation loop comprises:

warping the image level of the first image pyramid with the intermediate motion field;

computing a residual motion field from the warped image level of the first image pyramid and a corresponding image level of the second image pyramid;

evaluating the residual motion field against a threshold; and

when the result of evaluating the residual motion field is greater than the threshold, adding the residual motion field into the intermediate motion field and repeating the loop.

Claim 11 (New): The method of claim 10, wherein said computing a residual motion field comprises applying a Horn and Schunck motion estimation algorithm.

Claim 12 (New): The method of claim 10, wherein the motion field is obtained when the computation loop is applied on the image level of the finest resolution.

Claim 13 (New): The method of claim 9, wherein said generating an intermediate image between the first image and the second image on a pixel-by-pixel basis comprises:

selecting each pixel in the first image and a corresponding pixel in the second image paired by a motion vector in the motion field

computing a value of a corresponding pixel in the intermediate image from the values of the first and the second pixels; and

computing a position of the corresponding pixel in the intermediate image based on the motion vector.

Claim 14 (New): The method of claim 9, wherein the first and the second image pyramids comprise Laplacian pyramids.

Claim 15 (New): A method for processing motion frames, comprising:

providing a first image and a second image;

computing a motion field comprising a plurality of motion vectors that respectively associate each pixel in the first image with a corresponding pixel in the second image; and

deriving the position of a plurality of pixels of an intermediate image between the first image and the second image based on the motion vectors.

Claim 16 (New): The method of claim 15, wherein said computing a motion field comprises:

generating a first image pyramid associated with the first image, and a second image pyramid associated with the second image, wherein the first and second image pyramids respectively comprise a plurality of corresponding image levels of gradual resolutions; and

computing the motion field recursively through the image levels from a coarsest resolution to a finest resolution.

Claim 17 (New): The method of claim 16, wherein the first image pyramid and the second image pyramid comprise Laplacian pyramid.

Claim 18 (New): The method of claim 16, wherein said computing the motion field recursively through the image levels comprises:

for each image level, performing a computation loop to derive an intermediate motion field based on an previous motion field obtained for a previous image level of coarser resolution,

wherein the previous motion field is initially assigned to the intermediate motion, and the computation loop comprises:

warping the image level of the first image pyramid with the intermediate motion field;

computing a residual motion field from the warped image level of the first image pyramid and a corresponding image level of the second image pyramid;

evaluating the residual motion field against a threshold; and

when the result of evaluating the residual motion field is greater than the threshold, adding the residual motion field into the intermediate motion field and repeating the loop.

Claim 19 (New): The method of claim 18, wherein said computing a residual motion field comprises applying a Horn and Schunck motion estimation algorithm.

Claim 20 (New): The method of claim 18, wherein the motion field is obtained when the computation loop is applied on the image level of the finest resolution.